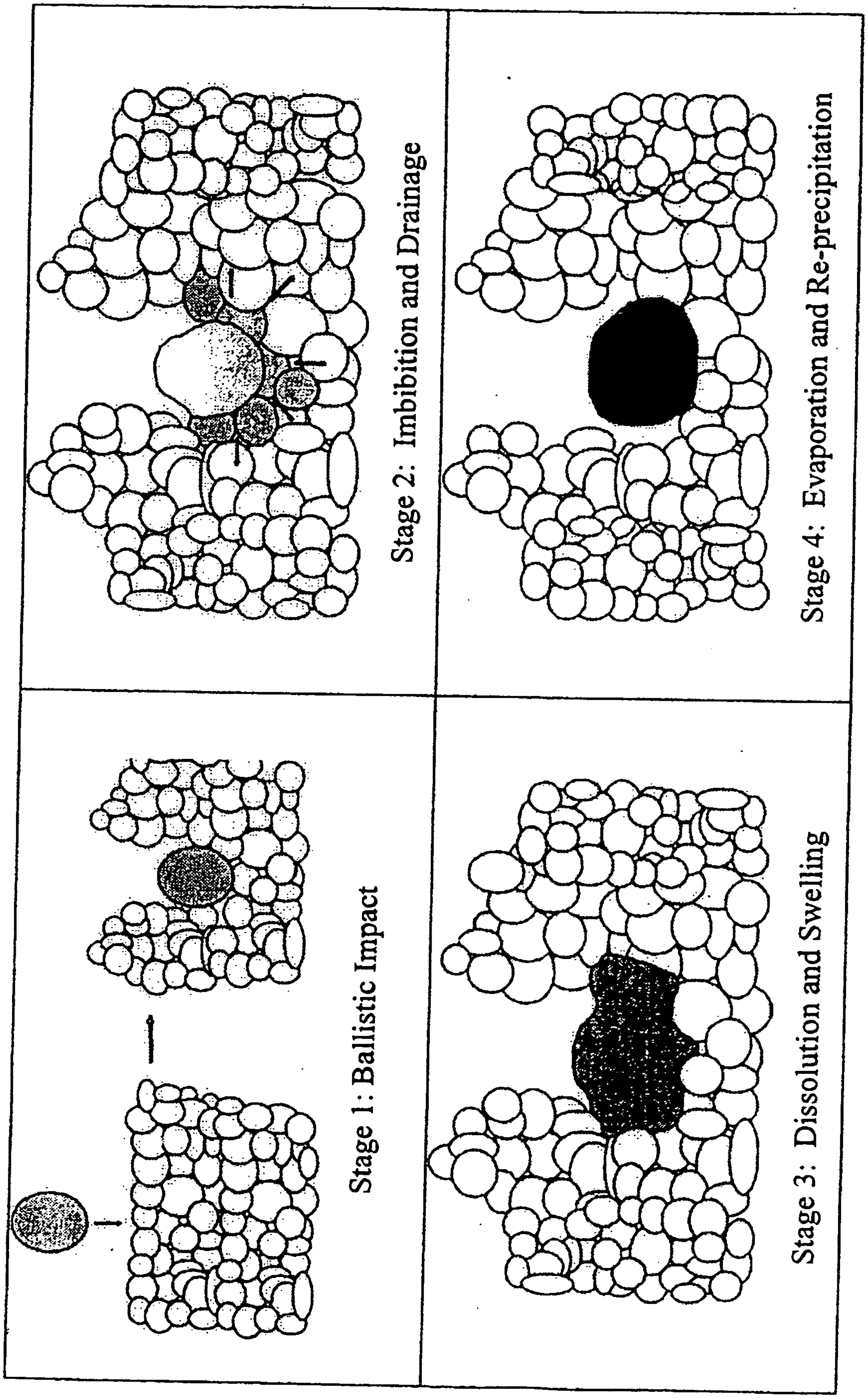

Stage 1: Ballistic Impact
Stage 2: Imbibition and Drainage
Stage 3: Dissolution and Swelling
Stage 4: Evaporation and Re-precipitation

Fig. 1
(Prior Art)

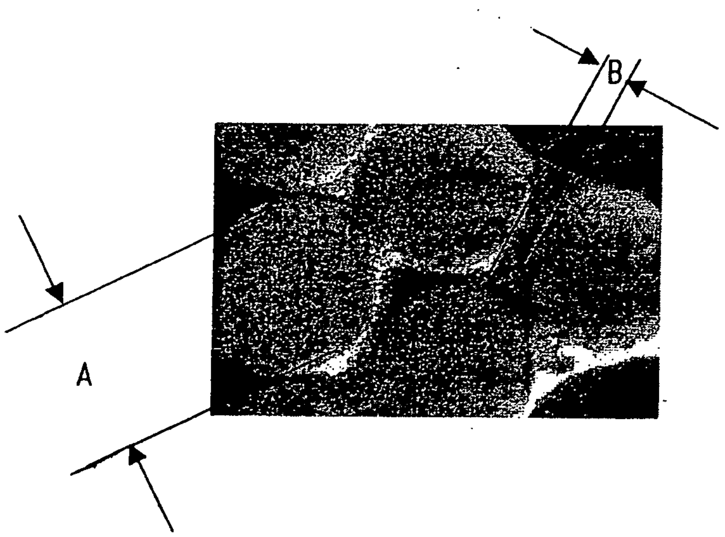


Fig. 2
(Prior Art)

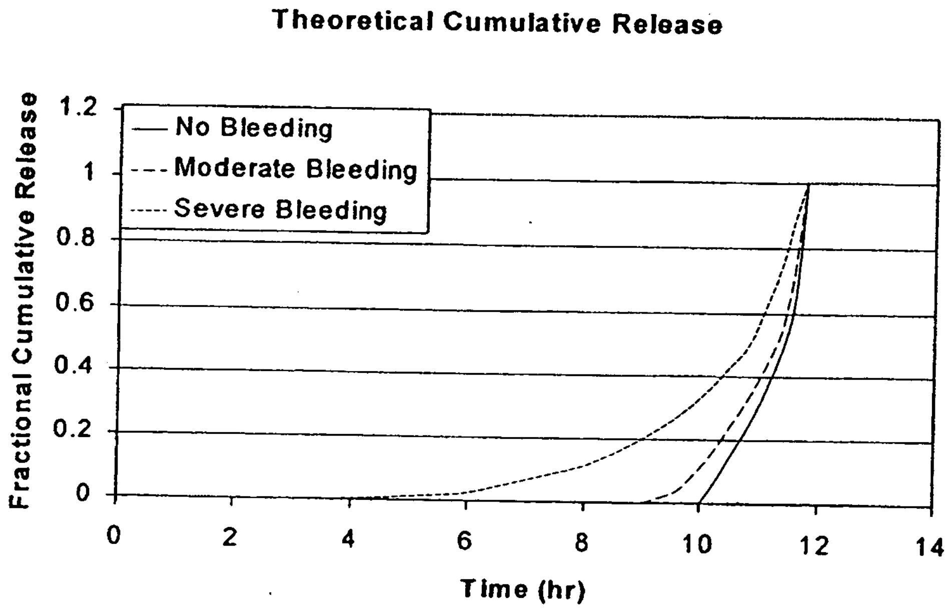


Fig. 3

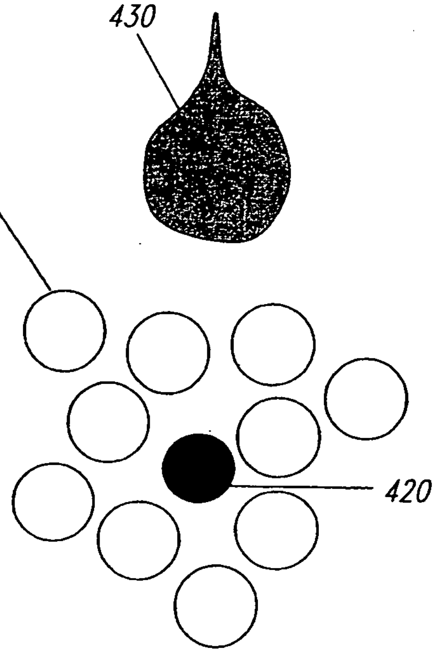


Fig. 4A

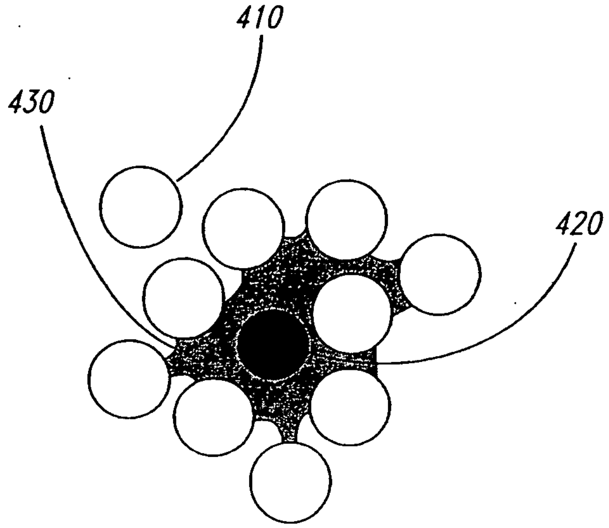


Fig. 4B

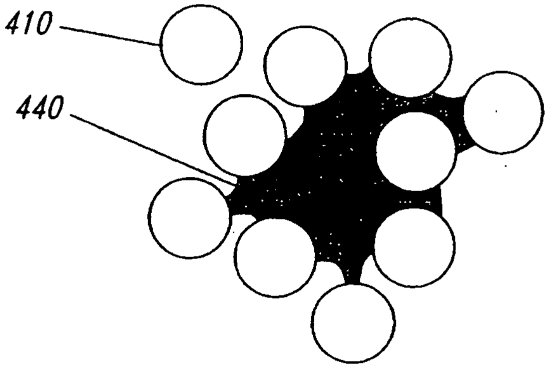


Fig. 4C

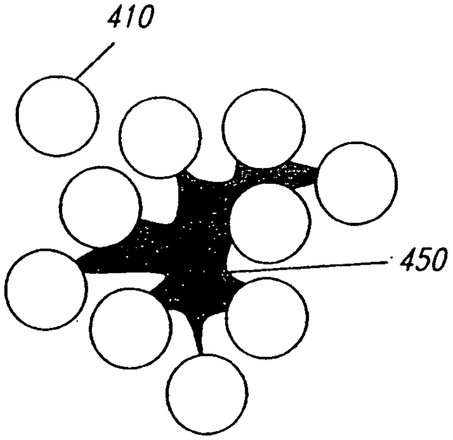


Fig. 4D

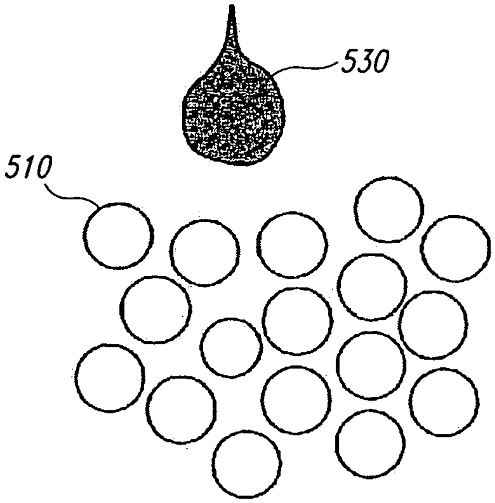


Fig. 5A

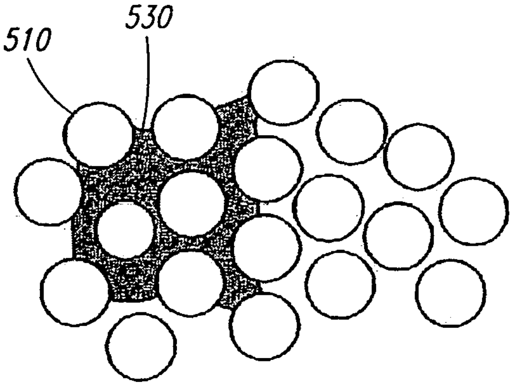


Fig. 5B

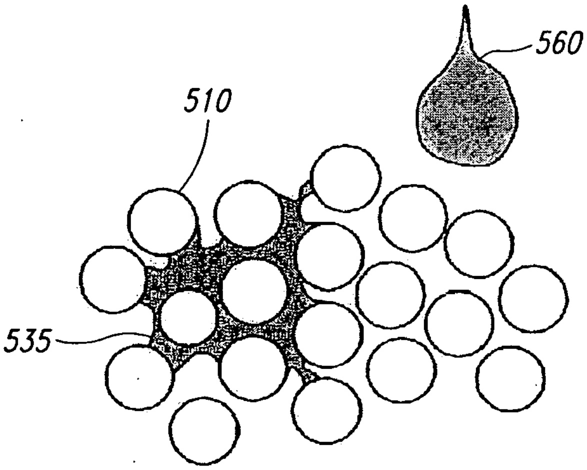


Fig. 5C

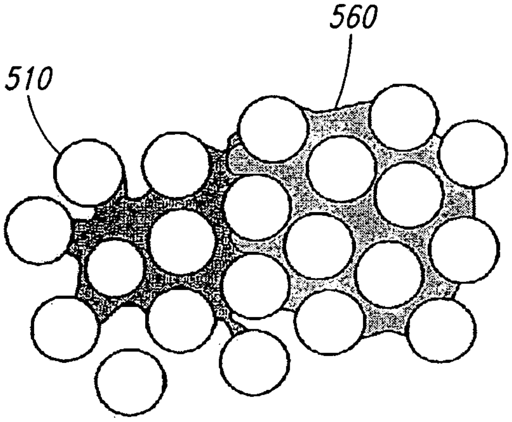


Fig. 5D

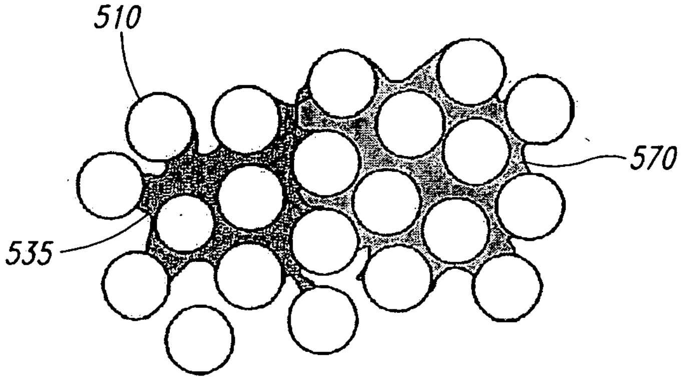


Fig. 5E

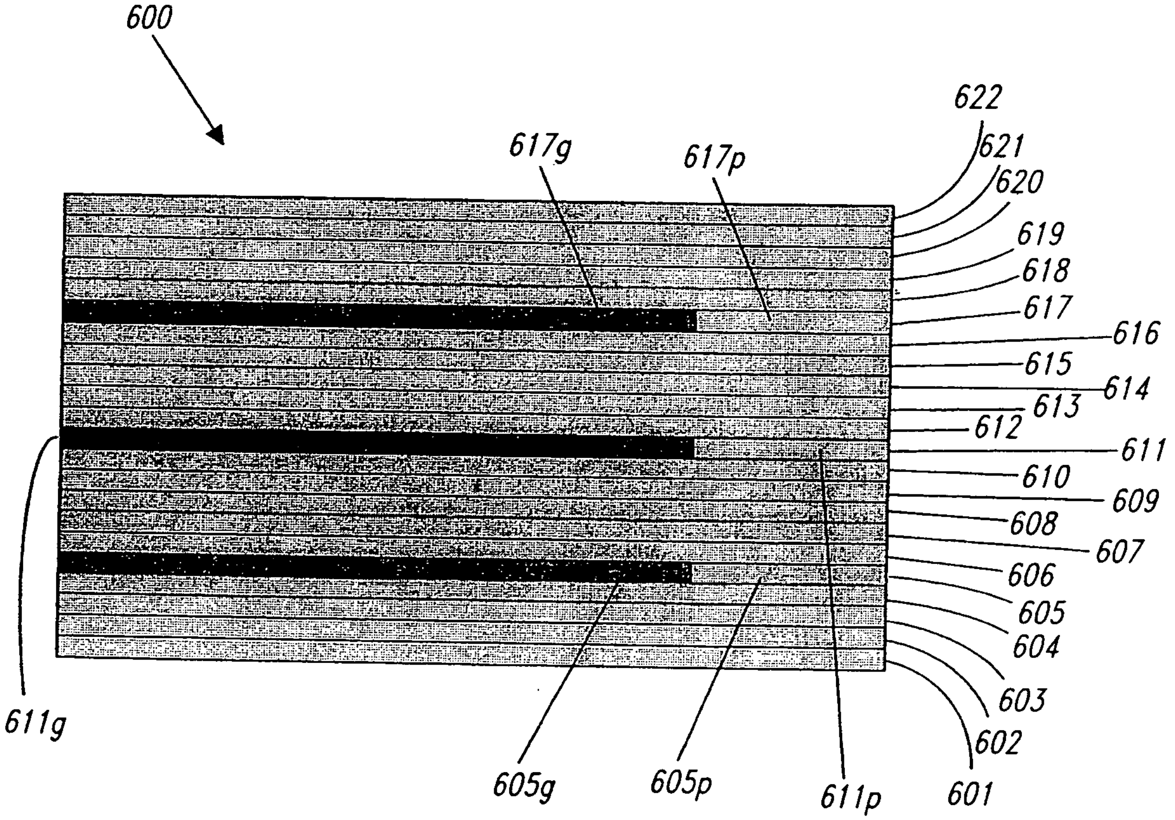
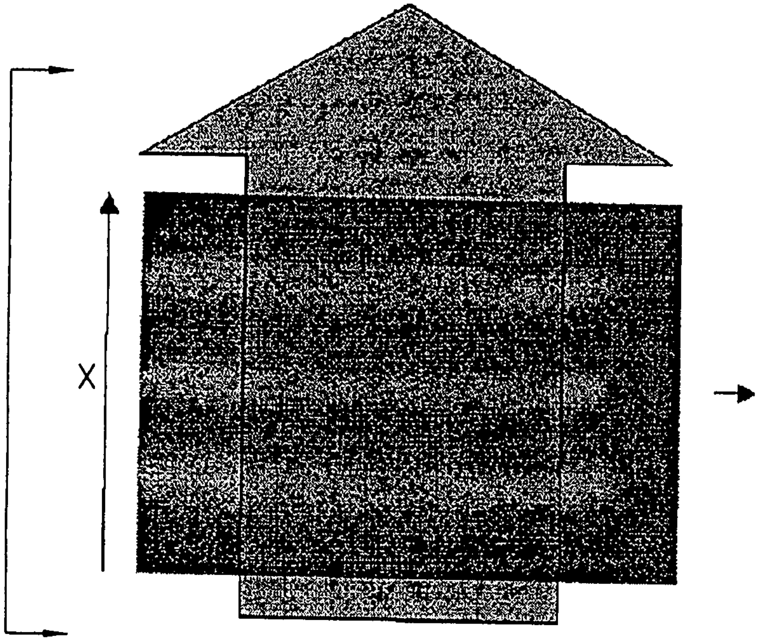

617p
605p
611p

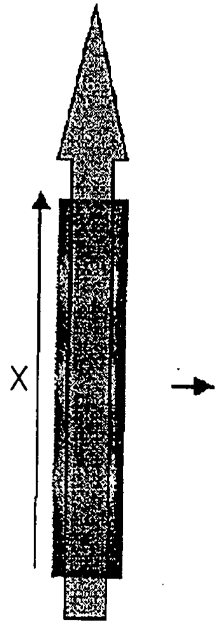
Fig. 6

SCANNING IMAGES FOR FLUORESCENT PIXEL DISTRIBUTION



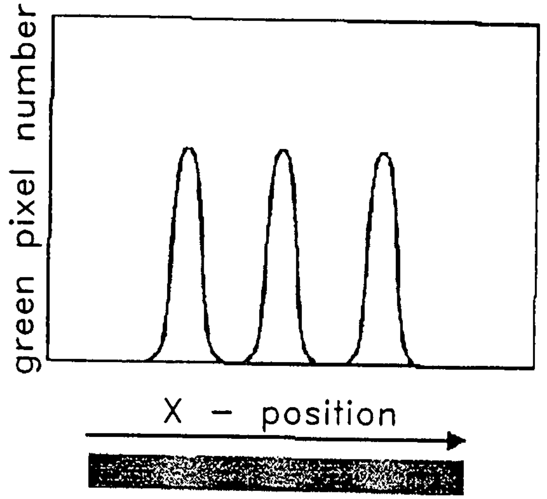
scan across digital image

Fig. 7A



collapse and average
pixel count over position

Fig. 7B



output: distribution

Fig. 7C

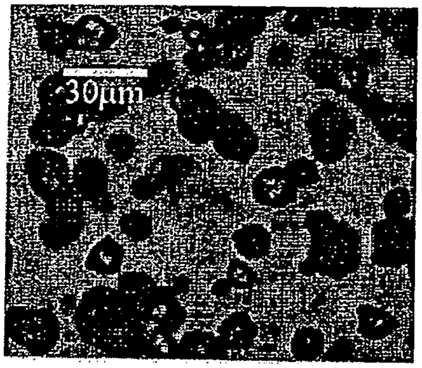


Fig. 8A

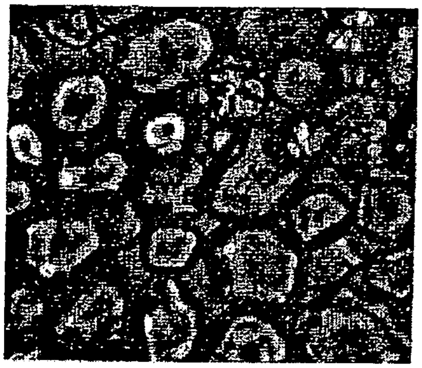
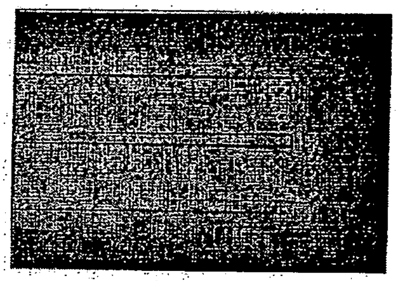
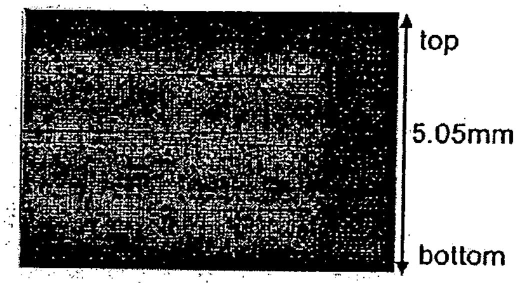


Fig. 8B



Powder: lactose 74 - 106µm
Binder: 35wt% sucrose/DI H_2O
ave. thickness fluorescein layer = 1150µm

Fig. 9A



Powder: 90% lactose/10%Cornstarch
Binder: 35wt% sucrose/DI H_2O
ave. thickness of fluorescein layer = 950µm

Fig. 9B

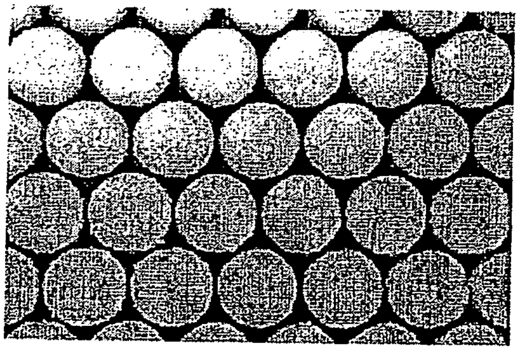


Fig. 10

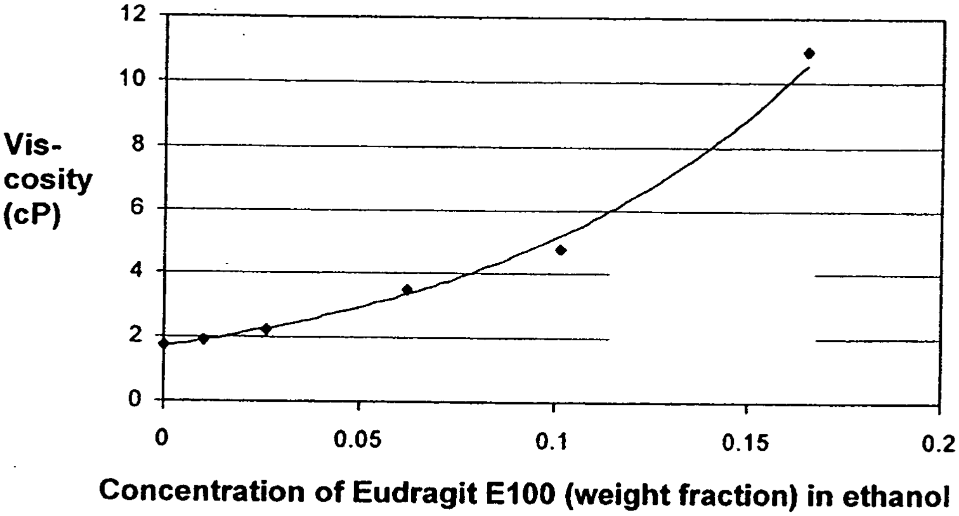
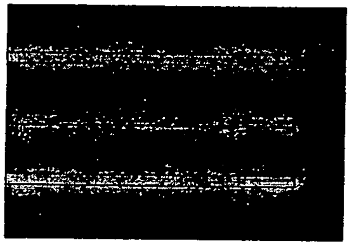
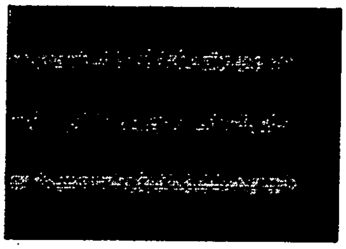


Fig. 11



Powder: lactose 74 - 106µm
Binder: 12wt% E100/Ethanol
ave. thickness fluorescein layer = 550µm

Fig. 12A



Powder: 80% lactose/ 20%E100
Binder: 12wt% E100/Ethanol
ave. thickness fluorescein layer = 440µm

Fig. 12B

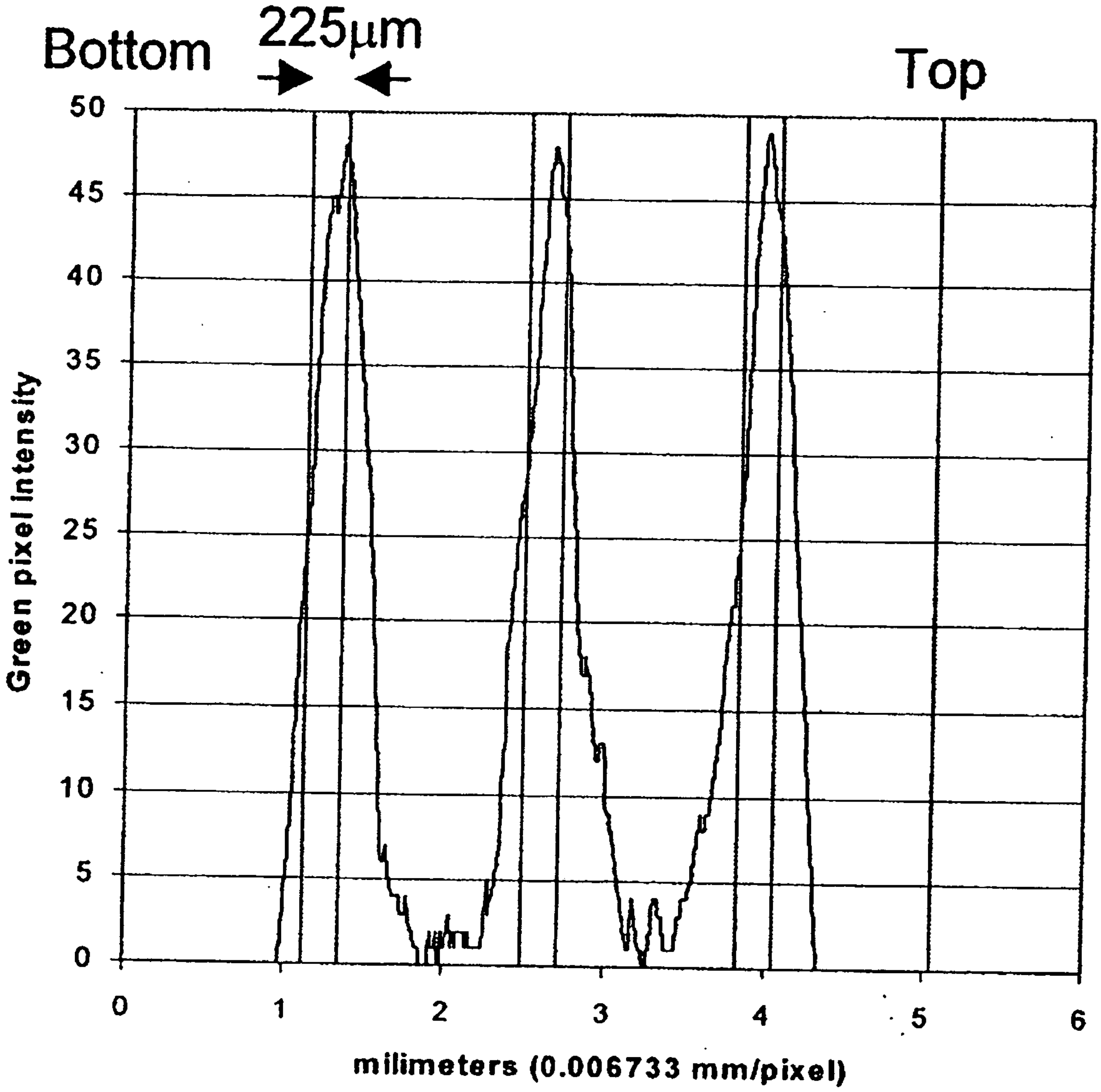

Bottom
225μm
Top
Green pixel intensity
50
45
40
35
30
25
20
15
10
5
0
0
1
2
3
4
5
6
milimeters (0.006733 mm/pixel)

Fig. 13

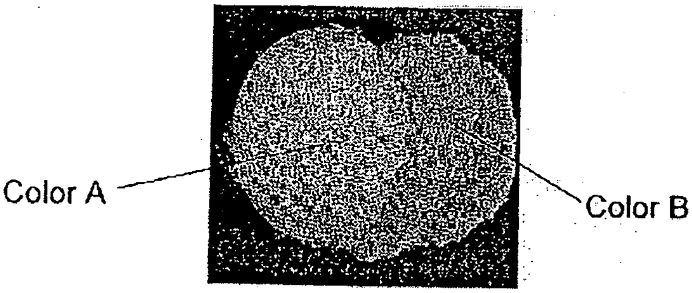
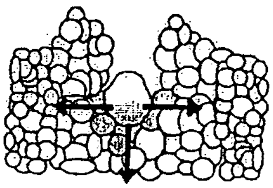
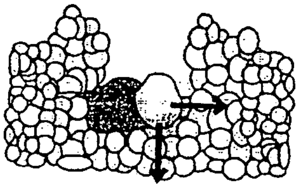


Fig. 14



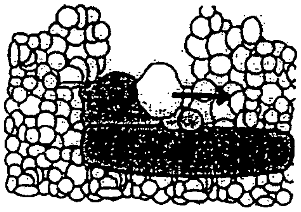
dry powder

Fig. 15A



adjacent lines

Fig. 15B



subsequent layers

Fig. 15C

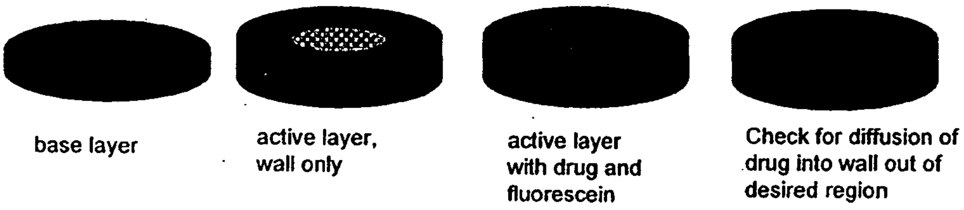

base layer
active layer, wall only
active layer with drug and fluorescein
Check for diffusion of drug into wall out of desired region

Fig. 16A

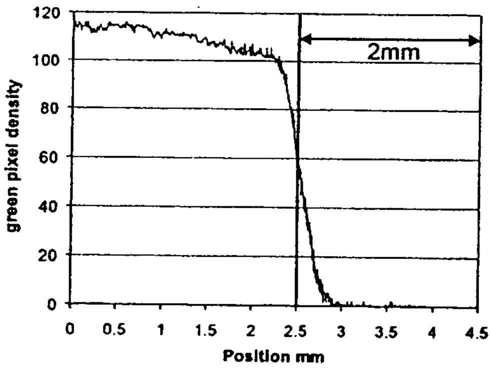


Fig. 16B

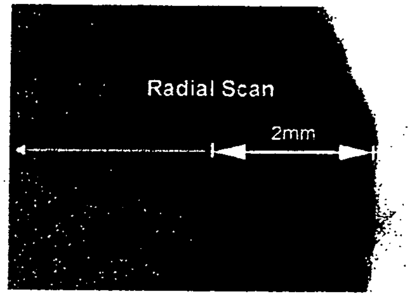


Fig. 16C